

INTRODUCTION OF THE STANDARD DAYS METHOD OF FAMILY PLANNING INTO REPRODUCTIVE HEALTH PROGRAMS IN BENIN, WEST AFRICA



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Support from the United States Agency for International Development (USAID) enables the Institute to assist a variety of international institutions, both public and private, to introduce and expand SDM services.

The Institute offers technical assistance and support to organizations and programs interested in providing the method. For more information, please contact us at irhinfo@georgetown.edu or visit our website, www.irh.org.

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June 2, 2005

Mihira Karra, Ph.D.
U.S. Agency for International Development
GH/PRH/RTU
RRB 3.06-165
Washington, DC 20523-3601

Dear Mihira,

Attached please find a copy of the final report of the Operations Research Study of the Standard Days Method introduction in Benin. The purpose of this research was to explore client perception, satisfaction and use of the method and to identify successes and challenges to its continued integration into the method mix in Benin.

Should you have any questions about the report, please contact Daren Trudeau.

Thank you for your ongoing help and support.

Sincerely,

Victoria H. Jennings, Ph.D
Director

Cc: Amy Leonard
Candide Agbobatinkpo
Virgile Capo-Chichi, PhD

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ABBREVIATIONS AND ACRONYMS

ABPF	Association Beninoise pour la Promotion de la Famille (Beninese association for the promotion of the family)
CBD	Community Based Distribution
DHS	Demographic and Health Survey
DSF	Direction de la Sante Familiale (Department of Family Health)
HOMEL	Hôpital Maternité Lagune (Lagune Maternity Hospital)
IEC	Information Education and Communication
IPPF	International Planned Parenthood Federation
IRH	Institute for Reproductive Health
LEADD	Laboratoire D'Etudes Appliquées aux Dynamique de Développement (Laboratory of Applied studies to the Dynamics of Development)
MOH	Ministry of Health
MSP	Ministere de la Sante Public (Ministry of Public Health)
NFP	Natural Family Planning
OSV/ JORDAN	Organisation pour la Santé et Vie (Organization for Service and Life)
SDM	Standard Days Method
UNFPA	United Nations Fund for Population Assistance
USAID	United States Agency for International Development
WHO	World Health Organization

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EXECUTIVE SUMMARY

Natural family planning methods have been in existence for several centuries. Yet, they have often been relegated to a secondary role in developing countries because women in these settings have little knowledge of their physiology.

The Standard Days Method developed by the Institute for Reproductive Health of Georgetown University, is effective in reducing the risk of unwanted pregnancies when used correctly. Among its many advantages is the fact that it is simple and natural and requires no medicine or mechanical action that may affect a woman's health. In this respect, the SDM is appealing to many couples in Benin where there is a high unmet need for family planning and where women are used to practicing periodic abstinence.

The introduction of the SDM into existing reproductive health services using an operations research approach has been a very productive experience for the Ministry of Health. The results presented in this document call for action from our partners. This study has demonstrated that it is feasible to introduce the SDM into Reproductive Health services in Benin. Moreover, it clearly points to the need to expand the availability of this method to more clinics, with the view of national coverage within a few years.

I am grateful to the Institute for Reproductive Health and the United States Agency for International Development for their technical and financial contribution to this research.

Many thanks to the personnel of LEADD for heading local management of the project and delivering high quality research. I would also like to say a word of thanks to the participating clinics, Homel, OSV – Jordan and ABPF and to all men and women involved in this process.

May this research be the starting point of numerous other initiatives with the view of meeting the unmet needs for family planning among underserved in Benin and Africa.

MAP OF BENIN



I. BACKGROUND

1.1 Introduction

The need for appropriate, high-quality family planning services in Sub-Saharan Africa is substantial and growing. Unmet need for family planning in the region has increased in recent decades, despite the decline in unmet need and rise in contraceptive use in other regions of the developing world¹. Efforts to respond to this unmet need must involve expanding the options available to African women and couples. Increasing the accessibility of natural methods of family planning (NFP), which are not currently widely offered, represents one viable strategy for expanding choice in Africa².

The Laboratory for Applied Studies in Development (LEADD) in Benin, in collaboration with the Institute for Reproductive Health (IRH) of Georgetown University conducted a case study to document the effects of introducing a fertility awareness-based method of family planning - the Standard Days Method (SDM) or "Le Collier" - into existing Beninese family planning and health programs. A feasibility study conducted in two urban centers in Benin (Cotonou and Parakou) demonstrated the existence of a potential demand for the SDM. The study revealed that "counting the days", the essential basis of the method, is common practice in Benin and that the SDM is culturally acceptable in Beninese communities³. The integration of the SDM will extend the gamut of effective family planning options available to African couples in a context of rising unmet need and relatively common use of natural and/or traditional methods⁴.

This study took place in two urban centers in Benin (Cotonou and Parakou) where the Ministry of Health, the Beninese Association for Family Promotion (ABPF) and the NGO "OSV-Jordan" are currently implementing reproductive health activities with funding from national and international partners. These ongoing projects attempt to reduce the problem of high reproductive health-related morbidity and mortality through improving family planning and women's health services, education, and community outreach activities.

This study examined the demand for the SDM; provider ability to offer the SDM; client ability to use the method correctly, and client satisfaction and continuation with the method.

1.2.Problem

In Benin, approximately 17% of all women report using any method of family planning. This figure is strikingly low considering that about 75% of women reported knowledge of

¹ "Sub-Sahara's Unmet Need." *Popline* 2000. Vol. 22. Population Institute. Washington, DC.

² Malle B. " Augmenter l'Acceptation et l'Usage de la Planification Familiale Naturelle: Une Etude Diagnostique". CEFORP and Institute for Reproductive Health. 2000.

³ Capo-Chichi V, Vissoh S, Anastasi E. *The feasibility of introducing the Standard Days Method of family planning in Benin*. Institute for Reproductive Health. 2000.

⁴ *Popline*, Op. cit

family planning method, and over one-third had used a method at some point in their lives⁵. Research indicates that, even when knowledge of family planning methods is high and these methods are readily available, many Beninese women prefer to use natural or traditional methods for fear of side effects and complications attributed to modern methods⁶.

Data from Benin further suggest that NFP may be culturally appropriate and a preferred method among that country's population. For example, (of all natural family planning methods used) approximately 12% of all Beninese women, 36% of unmarried, sexually active women, and 24% of all men report using either periodic abstinence or a "traditional" method as their current method of avoiding pregnancy. Approximately 17% of married women who are not currently using family planning, yet desire to use some method in the future, identified natural methods as their method of choice⁷. High rates of discontinuation of family planning methods, often due to side effects or fear of side effects, socio-cultural factors, and men's opposition is also of concern. Introduction of a fertility – awareness based method could address the needs of couples dissatisfied with the current family planning options available.

Despite the existence of a significant potential demand for natural methods of family planning in Benin, access to these methods has been limited. Most family planning institutions state that they offer natural methods, but in reality, these methods have rarely been integrated into existing family planning services. This may be due to a number of factors, including health providers' lack of information and training, misconceptions about NFP, and lack of political commitment and financial resources⁸.

This study included key family planning and reproductive health organizations in Benin: HOMEL (an MOH clinic), the Beninese Association for the Promotion of the Family (ABPF - an IPPF affiliate), and the Organization for Service and Life (OSV-Jordan, which is a community health NGO).

The HOMEL (Previously Maternité Lagune), located in the capital city of Cotonou, is the largest and oldest maternity hospital in the country. It is a public teaching hospital and OB/GYN national reference center. It offers a range of services including: OB/GYN care; pre- and post-natal care; delivery; and family planning counseling and promotion.

The ABPF, which has offices in each of the six departments of the country, including in the northern city of Parakou (Borgou department), is an IPPF affiliate created in 1972, and the first organization in Benin to promote family planning. ABPF's activities include family planning service delivery; IEC for behavioral change communication; community-based services; and population policy/advocacy.

⁵ Kodjogbé, Nicaise, Gora Mboup, Justin Tossou, Léopoldine de Souza, Timothée Gandaho, Alphonse Guédémé, Thomas Houedokoho, Rafatou Houndékon, Thomas Tohouegnon, Suzanne Zomahoun, Virgile Capo-Chichi, and Adrée Cossi 1997. Enquête Démographique et de Santé, République du Bénin 1996. Calverton, MD USA: Institut National de la Statistique et de l'Analyse Economique and Macro International Inc.

⁶ Capo-Chichi PVA, 1999. Doctoral Dissertation

⁷ Kodjogbé et al, Op. cit

⁸ Capo-Chichi V, Op. cit

The OSV-Jordan, also operating in Cotonou and Parakou, as well as in the northwestern department of Atacora, is an NGO dedicated to offering comprehensive health services to underserved populations within Benin. It operates two major programs: a network of integrated health care clinics and a community-based health services program.

1.3. The Standard Days Method (SDM)

The Standard Days Method (SDM), developed by the Institute for Reproductive Health at Georgetown University, may help meet the needs of the above-mentioned population segments⁹. The effectiveness of the method is well established¹⁰, and results from pilot studies conducted in Peru, Bolivia and the Philippines were positive. Providers and clients found the method easy to teach and use, and the number of pregnancies in the pilot studies was very low¹¹. A multi-site field trial of SDM effectiveness has recently been completed and the results look very promising.

The SDM is a simple, natural method of family planning. It is based on the fact that there is a "fertile window" during a woman's menstrual cycle - a window of days during which she can, with varying degrees of likelihood, become pregnant as a result of unprotected intercourse. For women whose cycles are between 26 and 32 days long, this window is from day 8 through day 19 (inclusive) of their cycles. Its use (and effectiveness) relies on abstaining from unprotected intercourse during the fertile days of the woman's menstrual cycle. It requires cooperation of both members of the couple, and is most appropriate for regularly cycling women (who consistently have cycles between 26 and 32 days in length).

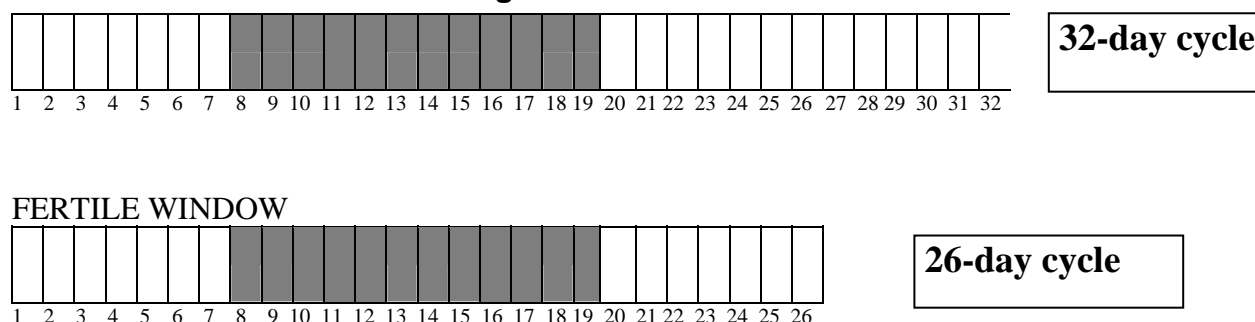
As Figure 1 shows, this identified fertile window remains constant regardless of cycle length when the cycle is within the 26-32 day range. The probability of this window covering the fertile days is highest for cycles within this range. (However it also provides some coverage for cycles that are somewhat longer or somewhat shorter).

⁹ Arevalo M, Sinai I, Jennings V, A fixed formula to define the fertile window of the menstrual cycle as the basis for a simple method of natural family planning, *Contraception*, December 1999.

¹⁰ Arevalo, M., Jennings, V, Sinai, I, Efficacy of a New Method of Family Planning: The Standard Days Method. *Contraception* 65: 333-338. 2002

¹¹ Lundgren R, et al., Provider and client satisfaction with the Standard Days Method, February 2000.

Figure 1. The Fertile Window



If a couple desires to prevent a pregnancy, the woman and her partner avoid unprotected intercourse on days 8 through 19 of every cycle.

There are a variety of ways to "keep track" of the current day of the woman's menstrual cycle. Some women may be able to remember when they began their most recent menstrual bleeding and count accordingly. Others may prefer to use a calendar - simply checking off each day beginning with the first day of the woman's menstrual bleeding. Operation research conducted by IRH in six countries, indicate that many women find a string of beads, with each bead representing a day of the cycle (called the "le collier") to be a helpful tracking and communication tool. CycleBeads™ used in several countries, consists of 32 beads. The bead representing the first day of menstruation is red, followed by 6 brown beads (indicating that the first 7 days of the cycle are not fertile). These are followed by 12 white beads, which represent the fertile window. The remaining beads are brown, again indicating infertile days. The woman moves a small rubber ring one bead per day so she can identify when she is in her fertile window.

The SDM can be taught by a trained provider or community health/outreach worker to women, men, or couples in either individual or group sessions.

1.4 Study Objectives

The major objectives of this study were to:

- 1) Test and document the incorporation of the Standard Days Method into the MOH, ABPF, and OSV-Jordan health programs in Benin;
- 2) Measure correct use and continuation of the SDM among study participants;
- 3) Assess how women/couples use the SDM; whether they use barrier methods, withdrawal, or abstain during the fertile days; and
- 4) Estimate user acceptance and satisfaction rates of the SDM.

1.5. Research Questions

Through this study, the MOH, ABPF, and OSV-Jordan determined the feasibility and effect of incorporating the Standard Days Method into their programs. Specifically, they determined the level of demand for the SDM, clients' ability to use it correctly, and factors influencing its successful use. This research has prepared the way for other programs (both governmental and nongovernmental) to incorporate this method into existing services and to "scale up" on a national level.

The study addressed the following questions:

- Is it feasible for the MOH, ABPF, and OSV-Jordan to incorporate the SDM into their existing programs?
- What are the factors (institutional, cultural, etc.) that facilitate and impede the integration of the SDM into existing health programs?
- What are providers' attitudes toward the SDM? Do they change over time, and if so, how?
- How do women and men perceive the SDM?
- How do couples use the SDM?
- What are the reasons for method continuation or discontinuation in the various settings?
- What are the user continuation rates of the SDM at six and twelve months?

1.6 Study Design and Methodology

1.6.1 Nature of the Study

This case study involved the introduction of a new method of family planning. During the woman's fertile days, couples using the SDM, may abstain from sexual relations, use a barrier method or (as a last resort) withdrawal to avoid a pregnancy. The participating health programs / clinics offered the method to clients according to predetermined eligibility criteria. A parallel program of research was conducted to document and evaluate various aspects of integrating the SDM into existing health/family planning services. The method was offered by the service providers of each organization, and follow-up interviews were carried out by trained interviewers. The method was incorporated into programs that already offered family planning and reproductive health services. Where possible, the method was taught to the couple rather than the woman alone.

1.6.2 Sample size and duration of the study

Initially, it was estimated that each organization would recruit approximately 300 women/couples in their community into the study, according to the eligibility criteria for using the method. However, accrual rates were considerably lower than those estimated. This was mainly due to the strict eligibility criteria that were defined by the Benin team. Actually, while the number of women who expressed desire to use was high (1179), only 338 were eligible and were provided the method. Of those, 219 accepted to participate in the study according their consent forms.

Each participating woman/couple was to be followed up for 13 cycles. The study lasted about 23 months, of which 3 months of preparatory activities, 6 months of recruitment, 12 months of follow up, and 3 months of data analysis and report writing.

1.6.3 Project activities

The study involved three main types of activities: preparation; service delivery; and research.

a. Adaptation of materials

In the course of conducting other studies on the SDM, the Institute for Reproductive Health has developed and tested a program of instruction for training service providers, a protocol for service delivery, job aids, and client materials. These materials have been revised, adapted, modified, and translated for use in the introduction of the SDM in several countries. LEADD translated, adapted, and pre – tested these materials for use in Benin. Materials included provider cue cards, client cards, and calendars. (IEC materials, as appropriate, were also developed or adapted for use by providers during sensitization and promotional activities.). This was done in several stages;

- Discussions with directors, IEC personnel and providers in participating organizations;
- Presentation of preliminary results to a panel of journalists for content and approach evaluation; and
- Use of an IEC expert to finalize adapted materials.

During the assessment of the feasibility and acceptability of introducing the SDM in Benin, qualitative findings collected from women, men, providers and organizational directors, and community and religious leaders were evaluated. This information was used to guide the adaptation of the training program and the provider and client materials as well as IEC/promotional material. An appropriate name in French (Collier) was selected.

b. Promotion

LEADD and IRH consulted with the MOH, ABPF, and OSV-Jordan in designing, organizing and carrying out an awareness raising campaign to inform potential clients in their communities of the existence and availability of the SDM. During this kick-off period, a press conference was organized to inform journalists, using written and audiovisual materials to highlight awareness of a new FP method to compliment those already available. Local radio and television stations were also employed to inform the population of the availability of the method.

This campaign included health providers, community health workers, religious and community leaders, women's groups, and men's networks and involved outreach to both men and women. Promotional materials for clients and providers, based on IRH generic materials, were developed with the support of the IRH.

c. Training

Training of appropriate personnel from the four participating organizations was conducted in two phases. First, IRH staff, in collaboration with LEADD personnel and a local trainer, trained directors and supervisors from the organizations involved in the project. This training activity enabled these individuals to understand the method and gain insight into how the study would be conducted. It also allowed the providers a chance to review the client and provider materials. This training session lasted two days.

The second phase of training involved health service providers, community outreach workers (where applicable), as well as interviewers who would be responsible for client follow up. The joint training provided an opportunity for providers and interviewers to work together. Because the interviewers must be familiar with both the method and the research activities, their training lasted longer than that of the service providers. All trainings were participatory, and immediately followed by implementation of study activities. In each center, all family planning providers were able to offer the SDM. In addition, since each participating center held educational talks to promote the SDM, service providers received training and guidance regarding these talks. Likewise, community agents from ABPF Parakou and OSV-Jordan were trained in appropriate SDM marketing and promotional strategies. These trainings were conducted by LEADD, with the support of IRH. Themes included counseling of clients, service delivery, and client follow up. Provider training lasted 1 to 2 days. Interviewer training lasted an additional 1-2 days to allow time for reviewing and pretesting the study instruments.

Since OSV-Jordan has a large number of community agents, four informational seminars (about a half day each) were organized to train them. This permitted them to better understand the SDM, promote the method during their regular community activities, and refer women interested in the SDM to clinics.

Data collection instruments were developed in French. Although a written version in the local language does not exist, during the course of the training, role plays and other learning activities were conducted in local language (Fon in Cotonou; Batonu and Dendi for Parakou). Sensitive themes were thoroughly reviewed during training to decide on the most appropriate translations.

1.7 Service delivery activities

1.7.1 Community promotion

In order to expand their family planning services, ABPF and OSV-Jordan recruited community agents to facilitate the transmission of information among grassroots populations. These agents' main task was to organize IEC activities and distribute non-medical contraceptive products such as condoms, spermicides, etc. They also referred women who desired other methods to different clinics for methods they do not provide themselves (pills, injectables, Norplant, etc.). In the present study, ABPF and OSV-Jordan community agents sensitized populations about the SDM by incorporating it into the gamut of methods they discussed during their activities using promotional materials

provided to them. They also referred interested women to the clinic and assisted in the location of women during follow up visits with interviewers.

Maternité Lagune does not have community agents. However, informational sessions designed for their medical and para-medical personnel not directly involved in family planning activities were conducted to enable them to provide information about the method to their clients.

1.7.2 Providing the SDM

In general, women seeking reproductive health services first meet with health personnel (typically a midwife) in a consultation room. The provider presents all of the available family planning methods to her, discusses how they are used, and the advantages and disadvantages of each. No clinical exam or invasive procedure is performed before the woman chooses a method.

This procedure remained the same during the study. However, the SDM was included among the available methods presented by the provider during the counseling session, using educational and promotional materials designed by IRH.

Clients interested in the method were counseled by the provider on the SDM, using Institute-developed tools. Service providers verified that the client understood how to use the method. Clients who decided to use the method were given the CycleBeads, a calendar, and other client materials. After deciding to use the SDM, the client was told about the study and invited to participate. Before enrolling in the study, however, clients signed the informed consent or gave verbal approval. Finally, before the client left the clinic, the provider set up a follow up appointment. (This usually took place at the beginning of her next menstrual cycle, in addition to the first follow-up interview.)

1.7.3 Basic data collection

When clients were recruited, certain basic information were collected from them by providers such as information on the client's residence. (For example, information was collected about the house, neighborhood, woman's name, her nickname, husband's name, etc.) A new client information form and/or client register was developed for this purpose. Next, providers passed this information to the interviewer, who contacted the new client, assigned her a 10-digit code, and conducted the admission interview, during which basic socio demographic information was collected.

1.8 Research activities

Three types of research activities were conducted during this study: client follow-up interviews; clinical services evaluation; and data analysis.

1.8.1 Client & couple follow up

LEADD hired four personnel to conduct follow up interviews with SDM users (two from OSV-Jordan, one from ABPF Parakou and one from HOMEL). Information collected during these visits was used to determine user satisfaction and provided data for the calculation of effectiveness and continuation rates.

In order to ensure regular, smooth collection of data on new SDM clients, interviewers were based at the clinic and usually requested the woman to return to the clinic for follow up interviews. In cases in which a woman did not return for her interview, interviewers sought her out at her home. For women who returned to the clinic for follow up visits, the study reimbursed them the cost of transportation.

During the course of the study, interviewers collected data at the following times:

- Within 8 days of learning to use the SDM
- After one cycle of use (beginning of cycle #2)
- After three cycles of use (beginning of cycle #4)
- After six cycles of use (beginning of cycle #7)
- After nine cycles of use (beginning of cycle #10)
- After twelve cycles (beginning of cycle 13), or when the woman stopped using the method. In this case an exit or discontinuation interview was conducted.

If the woman became pregnant during the course of the study, she was also interviewed, using a separate questionnaire.

This schedule of visits was designed to ensure quality service delivery, and permitted the identification and resolution of problems or questions along the way. It also allowed for the close monitoring required to assess use and continuation rates of the SDM.

1.8.2 Evaluation of clinical services

The evaluation of clinical services was intended to assure the high quality of those services in order to increase community impact of the introduction of the SDM. Two main activities were conducted to evaluate clinical services: interviews with providers and analysis of service statistics.

Interviews with Health Providers

LEADD met with providers from each of the three organizations to discuss their experiences and perspectives on offering the SDM, as well as their perceptions of clients' experience learning and using the SDM. A variety of providers were interviewed, including physicians, midwives, nurses, auxiliary nurses, and community based (CBD) workers.

Service Statistics

Information on the SDM was integrated into the management information system (MIS) of each organization. A client register was also developed to enable providers and interviewers to coordinate and schedule followup visits, and to track clients. Service statistics from the MIS were analyzed to determine the number of new and continuing users. In addition, the MIS tracked the total number of SDM clients in each organization over the 20-month study period (including those who elected to use the SDM, but did not enter into the study). During supervision and support visits to each center, which occurred monthly in the first quarter of the study and quarterly afterwards, LEADD staff collected these service statistics and subsequently processed and analyzed this data.

1.9 Project management

This study was a collaborative project among the following institutions:

- IRH (international coordination)
- LEADD (management of the research and national coordination)
- Maternité Lagune, OSV-Jordan, and ABPF Parakou (service delivery activities). A brief description of each participating partner, as well as their role, is detailed below.

1.9.1 The Institute for Reproductive Health (IRH)

The IRH provided technical support to the project through on-site visits and communication by telephone, fax, and e-mail. Specifically, the Institute helped train providers in method provision and researchers in administration of interview forms and registries for researchers, and assisted in training and supervising them. IRH also reviewed all research instruments prior to their use and offered technical assistance and guidance in the development of promotional strategies, materials, data collection and analysis, report preparation, and results dissemination.

1.9.2 The Laboratory for Applied Studies in Development (LEADD)

LEADD is a regional research institution with expertise in training and implementation of development projects. It has worked in a number of fields - including health, education, the environment, and rural development. Created in September 2000, LEADD is a policy-research organization. Although it is a relatively young institution, its staff have significant experience conducting research projects. LEADD consists of a multidisciplinary team of researchers, consultants, and trainers, each having between 5-15 years of experience.

LEADD had overall responsibility for managing and implementing the project in Benin. In collaboration with IRH and the MOH, ABPF, and OSV-Jordan, LEADD trained providers and researchers, implemented and monitored services, and conducted data collection and analysis. Researchers from LEADD had responsibility for conducting follow-up interviews with SDM users.

1.9.3 ABPF/Parakou

The Beninese Association for Family Promotion (ABPF) is a nongovernmental organization created in 1972. It was the first organization to offer a wide range of family planning services in Benin. ABPF has been an IPPF affiliate since its creation and its activities are centered in the two large cities of Cotonou and Porto-Novo. Since 1990, ABPF has created satellite offices in each of the 6 departments in the country. ABPF community-based health workers assist in each municipality of Benin.

ABPF/Parakou currently has a 14 member staff, including one nurse midwife, one nurse, and nine community educators. ABPF Parakou's activities include:

- Clinical service delivery include: condoms and spermicides, pills and injectables, IUDs, and Norplant;
- IEC activities;
- Community-based services;
- Prenatal consultations;
- Family planning methods offered at the clinics.

ABPF/Parakou also organizes training and refresher training activities for its providers on teaching methodologies, contraceptive logistics, and contraceptive technology. These trainings are conducted annually and are supplemented by other trainings organized by their partners such as the Ministry of Health. In addition to clinical service delivery activities, ABPF/Parakou currently manages two projects: development of community-based services and IEC activities for behavioral change.

ABPF/Parakou's statistics indicate that during the year 2000, approximately 1,000 new family planning users were recruited for a total of 6000 visits. The most commonly accepted methods (by order of importance) were foaming pills, injectables, and oral pills during the first semester. However, during the second semester, Norplant was introduced and soon became the most accepted method.

In the course of the study, Mrs. Mamatou Djossou, sociologist and director of ABPF/Parakou clinic, had overall responsibility for the implementation of the study in that site.

1.9.4 HOMEL

HOMEL (formerly known as Maternité Lagune) is the largest and oldest maternity hospital in Cotonou and in Benin. It is located in a commercial part of the city. It is a national reference center for *OB/GYN*, with a semi-autonomous financial status. It conducts activities involving protecting and promoting family well-being.

HOMEL is a university teaching hospital where midwives and *OB/GYN* doctors do their internships. It underwent a merger with the Center for Maternal and Infant Protection (PMI) of Cotonou. As a result, there was an increase in the number of personnel, but also of the volume in activities. This merger entailed the shifting of family planning activities as well as of the involved personnel, from the current site at HOMEL to the current PMI site.

In 1999, HOMEL had a staff of 208, including 11 physicians, 50 midwives, 25 nurses, 7 nurse-midwife specialists. Their primary technical activities include clinical consultations, labor and delivery, and biomedical analysis. It has a 200 bed capacity.

Family planning activities are executed by a team directed by an OB/GYN and 4 midwives. They focus on counseling, health information and education, and promotion of modern contraception. At PMI, family planning services are provided by a team of three midwives under the chief medical director of the center. However, due to the merger some of this staff were reassigned.

Recent statistics indicate that the Maternité Lagune received approximately 5300 visits per year for a total of 800 new contraceptive clients.

At HOMEL, Professor René Perrin, gynecologist and chief of the maternity service, was responsible for this study. He was assisted by Mrs. Lamberte Ogouchi, midwife and head of family planning services.

1.9.5 OSV-Jordan

The Organization for Service and Life (OSV) is a nongovernmental organization created in 1995. It is dedicated to protecting and promoting family health, especially the reduction of child morbidity and mortality -- in 3 departments of Benin, including the Atlantique (in the south), and the Atacora and the Borgou (in the north). Its activities involve integrated clinical services and integrated community-based services. In Cotonou, its services are located in the Houéyiho neighborhood (a low-resource area).

During 1999, OSV consisted of 32 staff, including 8 in Cotonou and 24 in Parakou. Among them were one pediatrician, two general medicine doctors, two midwives, eight nurses, and one IEC agent. OSV-Jordan has also trained about 80 community agents for sensitization and distribution of non-medical contraceptive products.

OSV-Jordan offers clinical reproductive health and child health service activities, community-based services in urban and peri-urban areas, and behavioral change communication activities. Their family planning services are organized into two approaches: a clinic-based strategy (in Cotonou and Parakou) and a mobile strategy of community-based services.

OSV-Jordan/Cotonou's service statistics indicate about 2500 visits per year over the last two years for a total of 380 new contraceptive acceptors.

1.9.6 Ministry of Health

The Ministry of Health, through the Direction of Family Health was a key actor in project activities, especially in facilitating the dissemination of results and, eventually, the extension to the national level. The MOH was involved in the study at all levels, from its conception to the implementation, supervision, and evaluation of results.

In particular, promotional activities and project implementation was supported by the Ministry's family health department. In addition, the Ministry participated in different evaluations and attended strategic orientation meetings in order to facilitate the promotion of the method at the national level.

1.10 Protection of Study Participants

Researchers were trained to respect the privacy and confidentiality of respondents through the informed consent process. All respondents were read the informed consent form, which explains the basic nature of the study and the interviewers obtained agreement of respondents to participate in the study.

Confidentiality and anonymity were maintained through standard study procedures. Participants were assigned a study ID code; their names did not appear on any data collection form. All completed data forms were stored in locked filing cabinets. Only local study coordinators were able to link participant names with the ID codes.

During the SDM counseling, women were also informed of the potential risk of pregnancy and that the personnel of the clinic and Georgetown University could not be held responsible if the woman became pregnant. Women who became pregnant were referred to qualified personnel for prenatal care. However, the cost of this care was not paid by the study.

1.11 Implementation Plan

The study was implemented over approximately a 23-month period in the selected sites in Benin: Maternité Lagune and OSV-Jordan in Cotonou and ABPF in Parakou. During the initial months of the study, client and provider materials were adapted, translated, and pre-tested. Data collection forms and registries were also adapted and translated into French. Training of providers and data collectors were conducted in-country by IRH technical staff in collaboration with local consultants. Providers began to promote and offer the method immediately following the training. Sensitization to the SDM was carried out (by providers and organizations) over a period of several weeks.

1.12 Monitoring of activities

Relatively intense supervision for each center was conducted during the first month following provider and interviewer training. Then, one visit per month for the next two months was made to review counseling, the MIS, and clinic activities. Starting with the 3rd month, a monthly visit was made to collect data and to discuss the data collection process. These visits also served as an opportunity to discuss progress and difficulties as well as any other questions providers or directors had. In addition, any center having specific problems was visited as necessary.

A quarterly meeting was organized to review study advances and to share concerns of different members of the service teams. Participants included directors of the organizations involved in the study.

Supervisory visits were made by IRH personnel in order to monitor project implementation and conduct an external evaluation of progress. These visits were coordinated with the quarterly meetings of local project staff, to the extent possible.

II. Results

2.1 The process of study implementation

The introduction of the SDM in Benin required activities at both national and local levels. This section describes the results of SDM activities at these levels and institutional collaboration.

2.1.1 Implementing the SDM at the national level

The introduction of the SDM into the existing family planning package in Benin was conducted by the “Direction de la Santé Familiale (DSF)”, a decentralized department of the Ministry of Health of Benin. LEADD, a local research institution provided technical assistance to DSF for these activities. All activities described in this section were the primary responsibility of the DSF with close collaboration by personnel from LEADD and other participating organizations. As an implementation agency, LEADD has always involved the DSF and the MOH in the decision-making process at all stages, making it easier for all actors to have the same level of information and understanding. This was a critical point in terms of institutional relation-building. The implementation of the SDM OR study at the national level in Benin was conducted in three main phases which are described below.

The first phase consisted of pre-launch or preparatory activities. These included a training of trainers, various training activities directed at service providers and media personnel and a social marketing research activity. Pre-launch activities helped in planning promotional activities with the media, the adaptation of SDM eligibility criteria to the Benin family planning context and the identification of service provision strategies. The pre-launch activities resulted in the development of provider cue cards and posters, and other materials to raise awareness of the SDM. A slogan was also identified and various messages were proposed for radio and TV programs. The social marketing research survey confirmed the findings of the feasibility study but also revealed that the SDM should be presented strategically in order to avoid confusion with traditional methods. Table 1 presents the main activities undertaken at the pre-launch phase, their objectives and respective outputs.

Table 1: Objectives and output of pre-launch activities for the introduction of the SDM in Benin

Activity (Date)	Objectives	# Participants	Output
Training of trainers (Dec 2001)	Create a pool of trainers and synergy between institutions to be involved in the SDM project in Benin	20 participants from MoH (DSF); LEADD; ABPF; HOMEL; OSV-Jordan	17 persons trained
Training of service personnel (Jan 2002)	Discuss service provision strategies and plans for promotion	10 participants from LEADD; OSV-Jordan; ABPF; Faculty of health sciences	- Selection criteria finalized - SDM package identified - SDM sales price discussed
Training of media personnel	Finalize promotional strategies	10 participants from various press groups (ORTB, La Nation, L'Aurore, Le Matinal, Golfe FM, LC2, Radio Tokpa, Le Matin, Le Point au quotidien).	- Type & contents of promotion material identified - types of media to use identified
Contract with media consultant	Define profile of print institutions, take and select pictures, follow-up printing process	1 consultant	- 800 photos taken - contracts with actors - pictures selected for print - profile of print finalized Follow-up with print center
Social marketing research	Test promotion message Evaluate acceptability of method	4 members of an independent research team	Results as per objectives Radio and TV spots finalized

The second phase of the process of introducing the SDM at the national level relates to the formal launch of activities, promotion and services provision and data collection. The introduction of the SDM in Benin was formally launched on April 4th 2002, by the deputy director of the cabinet of the Minister of Health and the Director of Family Health. Participating institutions in the launch were LEADD, ABPF, HOMEL, OSV-Jordan, WHO, UNFPA and the media. The main activities conducted at this launch were:

- Training of service providers
- Training of data collection agents
- Radio and TV interviews on four local radios and two TV stations
- TV talk on one local TV station
- Radio talk on one local radio station
- Radio and TV spots
- Print media information on local journals

Shortly after the launch, service provision started with secondary activities such training of community based agents at Jordan and ABPF, supervision and on-the-job training for service providers and data collection agents. Overall, the launch and service provision process resulted in considerable awareness of the SDM among local population. Demand for the method was rapidly built. During the 17 months of activities, the following outputs were obtained.

- nine training activities were organized for 68 community agents and four data collection agents
- 375 radio spots were diffused through five different radio stations of large coverage
- 17 community promotion activities were conducted

Near the end of the implementation phase, evaluation research was conducted by two independent consultants to assess couples' practice of the SDM. This research which combined qualitative and quantitative approaches to provide better understanding of the social and intra-couple context of SDM use (See Dahoun C & Onambe G, 2003).

The third phase of the national level implementation relates to final data analysis, report writing and results dissemination. Preliminary analysis of data were conducted during the period of September to December 2003. The dissemination meeting took place on April 21st, 2004 and was headed, as was the launch meeting, by the same Deputy Director of Cabinet of the Ministry of Health. Twenty persons participated in this meeting from various local and international organizations, including:

Ministry of Health, DSF and various other departments of MoH

- LEADD
- OSV-Jordan
- ABPF
- HOMEL
- UNFPA
- WHO
- UNFPA
- USAID
- IRH

The meeting analyzed results of the process of implementation as well as quantitative and qualitative data collected in the course of the OR study. These results were found very positive and it was recommended that the provision of SDM be scaled up in Benin.

2.1.2 Implementing the SDM at clinic level

Clinic level activities were two-fold; service provision and promotional activities and data collection. Although the two were integrated, service provision and promotional activities at the clinic level was the responsibility of clinic personnel while data collection activities were conducted by LEADD personnel.

a. Service provision and promotion of the SDM

During the launch phase, a minimum of two providers were trained from each clinic to provide the SDM. This resulted in the immediate availability of service provision following the launch. In all clinics, service provision followed the traditional family planning provision strategy: counseling, method choice and provision, and follow-up. During the first two months of service delivery, clinic staff were visited regularly by personnel from LEADD to discuss various questions that came up. Suggestions were made to solve these problems either on the spot or through larger meetings. During the 17 months of service provision, participatory supervision was conducted in each clinic by a team of supervisors from DSF, LEADD and members from other clinics. This resulted in greater integration and exchange of experiences and ideas between clinics.

b. Data collection

Data collection on the acceptance and use of the SDM took place simultaneously as clients were being recruited. Although data collection agents were recruited by LEADD, they were located at the clinic and acted as clinic staff. This provided the grounds for better collaboration with normal clinic staff as they served also as counselors and helped with various other activities. Data collection activities also included admission interviews, follow-up visits and interviews, the administration of exit interviews, pregnancy forms and the recording of lost to follow-ups. Service statistics were the responsibility of providers, but the data collectors were also instructed to provide help for this as needed.

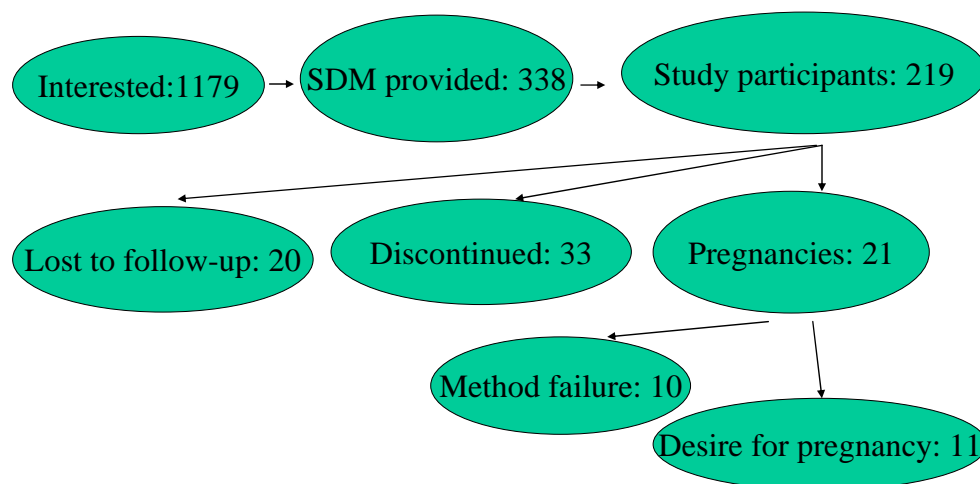
Table 2 presents statistics from clinic registers regarding recruitment rates and comparison of SDM recruitment with other methods. The table shows that overall, 7% of new family planning users in the three clinics chose to use the SDM, with large between – clinic variations (28% in OSV-Jordan and only 3% in ABPF).

Table 2. Services statistics by clinic

Indicators	Clinic			All clinics
	ABPF	HOMEL	OSV-Jordan	
# interested	440	140	599	1179
# SDM clients	56	72	210	338
# new clients all methods	1864	2007	739	4610
SDM as % all methods	3,0%	3,6%	28,4%	7,3%
# Study participants	54	46	119	219

Figure 2 summarizes the client flow from interest to study participation. More details on these are provided in the quantitative data analysis section.

Fig 2: Flow diagram of women Interested in the SDM



c. Institutional differences and problems

The implementation of the SDM study at the clinic level required unique strategies to account for institutional differences. OSV-Jordan, as a private NGO has undoubtedly provided the most convincing effort to recruit and follow acceptors. OSV organized community promotion activities for the SDM at the start of the process. They were committed to improving study recruitment and follow-up rates and benefited from the speed and efficiency of private sector agencies in terms of decision-making. With the support of LEADD, many of their suggestions were rapidly implemented.

Because of its public nature, HOMEL suffered from institutional changes such as the integration of the former “Maternité Lagune” with the “Service de Santé maternelle et infantile (SMI)” into HOMEL and the subsequent move of the FP clinic to a new site. Also, HOMEL personnel are civil servants and therefore subject to reassignment. This has resulted in several staff changes (both FP head staff and service providers) and additional training had to be conducted to avoid gaps in knowledge and practices. ABPF also suffered from changes in staff at all levels. To ensure continuity of activities, LEADD provided additional trainings. However, even though these changes likely affected recruitment rates and continuation of activities, they do not totally explain the relatively small number of clients recruited by these clinics. It is more probable that lower recruitment rates were due to a number of factors such as:

- lack of involvement of the organizational leadership,
- administrative barriers in terms of decision-making
- lack of flexibility in project management and
- lack of experience by these two organizations in community outreach activities (in comparison with OSV-Jordan.)

2.2.3 Institutional collaboration

Institutional collaboration was of very good quality during the course of this project. There have been no serious difficulties between participating institutions. This is probably the result of valuable leadership by the DSF, clear understanding of the goals of the OR study and well defined of roles for each institution.

Providers were satisfied with the study management and encouraged the DSF to continue activities.

2.2 Quantitative study

2.2.1 Characteristics of study participants

The Benin OR study was conducted in three clinics, two in the city of Cotonou (OSV-Jordan and HOMEL) and one in the northern city of Parakou (ABPF). More than half of the study participants were recruited by OSV-Jordan. ABPF and HOMEL recruited 25% and 21% respectively (Fig 3).

Figure 3. Percent of distribution of SDM acceptors by clinic

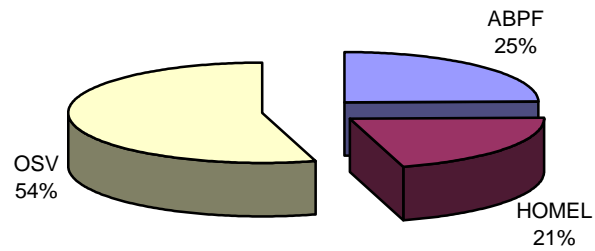


Table 3 presents the percent distribution of study participants by clinic, age, education and number of living children.

The age distribution of SDM acceptors shows that the majority of women were between 20 and 34 years. This is probably the age range where SDM would be most needed and useful for birth spacing purposes. A comparative analysis of the age of acceptors shows that acceptors recruited by OSV-Jordan are relatively young, 24% of their SDM users were less than 20 years of age compared with only 4% and 2% respectively for HOMEL and ABPF Parakou. In HOMEL, SDM acceptors were concentrated within the age-group of 20-29 years, almost half of them belonging to this group. On the other hand, women recruited by ABPF Parakou are spread across the age-groups of 20-44.

Table 3. Distribution of acceptors by age, education and number of living children within each of the three clinics

Selected socio - demographics	Clinic			All clinics (n= 219)
	ABPF (n=54)	HOMEL (n=46)	OSV (n=119)	
1 – Client’s Age (years)				
15 – 19	3.8	2.2	24.1	14.3
20 – 24	17.3	28.3	14.3	18.1
25 – 29	19.2	28.3	16.1	19.5
30 – 34	28.8	13.0	23.2	22.4
35 – 39	11.5	13.0	16.1	14.3
40 – 44	17.3	13.0	4.5	9.5
45 – 49	1.9	2.2	1.8	1.9
Mean age (std)	31.4(7.3)	29.8(7.3)	27.9(7.9)	29.2(7.7)
2 – Formal Education				
None	19.2	13.3	10.6	13.3
Primary	23.7	15.6	40.7	33.3
Secondary	48.1	71.1	48.7	53.3
3 – Number of living children				
0	3.7	14.3	31.4	20.2
1 – 2	42.6	50.0	38.2	41.9
3 – 5	42.6	33.3	24.5	31.3
6+	11.1	2.4	5.9	6.6
Mean (std)	2.9(2.0)	2.0(1.7)	1.9(1.9)	2.2(1.9)
Total	100.0	100.0	100.0	100.0

The distribution of study participants by level of formal education suggests that women in the study were more educated than the average woman in Benin. In effect, only 13% of women in the study had no formal education, compared with almost 65% in the general population. Women’s formal education level was variable from one clinic to the other. The data in Table 5 show that 71% of women recruited by HOMEL had secondary or higher education compared with only 48% for both OSV-Jordan and ABPF. Similarly, ABPF presents a higher level of women with no formal education compared with OSV Jordan (19% and 11% respectively). A result most probably explained by the fact that women in Parakou are more likely to come from rural areas than those in Cotonou.

The data in Table 5 show that more than 72% of SDM adopters had fewer than three children, a finding that is comparable to those of the Demographic and Health Surveys for other modern contraceptive methods (Benin 1996 DHS; Benin 2001 DHS). When clinics are compared, women recruited by OSV-Jordan present the fewest average number of children. This finding is in direct correlation with the fact that those women are younger, as revealed by the age data.

2.2.2 Sources of information on the SDM

Table 4 presents the percent distribution of study participants according to their primary source of information on the method and by clinic. It shows that about 53% of adopters were informed by promotional activities such as TV spots and radio. In addition, 24% of respondents learned about the SDM through community sensitization activities. Roughly 15% received their information on the SDM from service providers, while 6% were informed by their friends or family. The table also shows some differences between clinics in terms of sources of information. The great majority of acceptors from ABPF Parakou (67%) were informed of the SDM through community outreach activities while in HOMEL and OSV-Jordan, the main source of information was promotional activities. This is probably due to the fact that promotional activities were more concentrated in Cotonou with limited reach of media channels to remote areas such as Parakou.

Table 4: Percent distribution of acceptors by sources of SDM information and clinic

Sources of information *	Clinic			All clinics (n= 219)
	ABPF (n=54)	HOMEL (n=46)	OSV (n=119)	
Friends/family	5.6	2.2	8.4	6.4
Service providers	14.8	10.9	16.0	14.6
Promotional activities (TV/Radio)	7.4	65.2	68.9	53.0
Community sensitization	66.7	21.7	5.9	24.2
Other	5.6	0.0	0.8	1.8
Total	100.0	100.0	100.0	100.0

*multiple response

As the SDM method is considered to be a couple method, the study also collected information about husbands (see Table 5). It appeared that in general, women were the primary source of user information on the SDM for their partner/husband (68%), particularly among HOMEL SDM users (78%). Also, 32% of women recruited by ABPF-Parakou reported that their partners received the information on SDM from other sources, compared with 13% for HOMEL and only 6% for OSV-Jordan. About one-quarter of women from OSV declared that their partner did not receive any information on the SDM.

Table 5. Source of SDM information for male SDM users by clinic

Sources of information	Clinic			All clinics (n= 219)
	ABPF (n=54)	HOMEL (n=46)	OSV (n=119)	
No information	0.0	0.0	25.2	13.7
Wife/Partner	68.5	78.3	63.0	67.6
Service provider	0.0	8.7	5.9	5.0
Other	31.5	13.0	5.9	13.7
Total	100.0	100.0	100.0	100.0

The admission data were collected about one week after the woman had formally agreed to participate in the study. Therefore, it was necessary to ensure that she did not change her mind in the meantime. When asked if they were still using their method, 215 women out of 219 (98%) said yes, with all women not using the SDM coming from OSV-Jordan. All further analyses will be conducted only on those 215 women.

Of the four women who received the method but were not using at the time of admission interview:

- one forgot;
- one was breastfeeding and had not resumed menstruation the time of admission interview;
- one was waiting to inform her husband;
- one said her husband decided not to use the method; and
- four women knew how to use the SDM; two of them had discussed use with their husband.

2.2.3 Contraceptive use prior to SDM adoption

Table 6 presents data on previous contraceptive practice. The data show that nearly one half (45%) of women who adopted the SDM had never used any method of contraception previously. Among the 55% of women who had used some method in the past, periodic abstinence was the most common method (39%), followed by condoms (20%) and withdrawal (7%). Previous use of other modern contraceptive methods such as pills or injectables was relatively limited. Comparing these data by clinic shows some important differences; 80% of acceptors in Parakou did practice some form of contraception before adopting the SDM and almost all of them had used periodic abstinence in the past. In contrast, only 54% of acceptors from HOMEL and 44% from OSV-Jordan ever used a contraceptive method with much lower percentages of ever use of periodic abstinence (27% and 28% for HOMEL and Jordan respectively). Also, the percentage of acceptors who ever used condoms was very high at HOMEL (35%) compared with only 18% for Jordan and 11% for ABPF Parakou.

Table 6. Percent distribution of women according to their contraceptive experience

Ever use of contraception and method ever used	Clinic			All clinics (n= 219)
	ABPF (n=54)	HOMEL (n=46)	OSV (n=119)	
Ever used any method	79.6	54.3	43.7	54.8
Periodic abstinence	75.9	26.1	27.7	39.3
Withdrawal	11.1	10.9	4.2	7.3
Condoms	11.1	34.8	18.5	20.1
Spermicides	1.9	2.2	1.7	1.8
Pills	0.0	13.0	5.0	5.5
Injectables	0.0	6.5	3.4	3.2
Breastfeeding	0.0	2.2	0.0	0.5
Other	0.0	0.0	5.0	2.7
Total	100.0	100.0	100.0	100.0

Similarly, the data in Table 7 present the distribution of women by method used in the two months that preceded their entry in the study. The same trends are observed as with the data on ever use of contraception. About half of all acceptors had used a method in the two months prior to their entry into the study (82% for ABPF, 56% for HOMEL and 40% for Jordan).

Table 7: Percent distribution of women according to the contraceptive methods they used in the two months that preceded the study and by clinic.

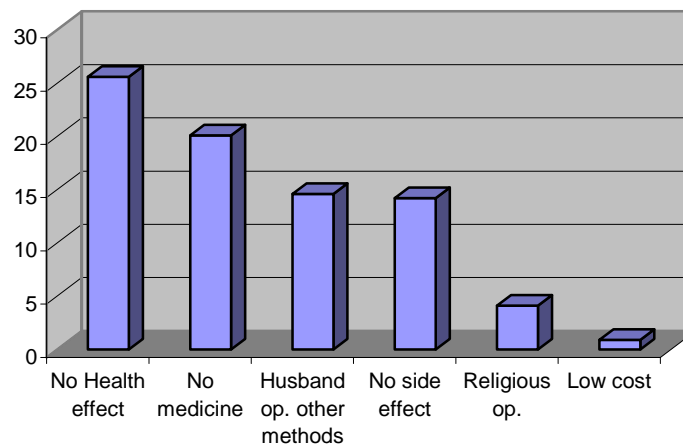
Contraceptive methods used in the two months prior to entry in the study	Clinic			All clinics (n= 219)
	ABPF (n=54)	HOMEL (n=46)	OSV (n=119)	
Used a method within two months	81.5	56.5	39.5	53.4
Periodic abstinence	68.5	2.2	17.6	26.9
Withdrawal	3.7	8.7	3.4	4.6
Condoms	5.6	34.8	12.6	15.5
Spermicides	1.9	2.2	1.7	1.8
Pills	1.9	8.7	4.2	4.6
Injectables	0.0	2.2	0.8	0.9
Breastfeeding	0.0	2.2	0.0	0.5
Other	0.0	0.0	1.7	0.9
Total	100.0	100.0	100.0	100.0

Again, periodic abstinence has a high presence (27%), especially in Parakou where it reached 69%. One third of acceptors from HOMEL said they used condoms compared with 13% for Jordan and 6% for ABPF. The majority of women who used some hormonal contraceptives in the two months preceding their entry came from HOMEL.

2.2.4 Reason for choosing the SDM

Data on the reasons why women chose the SDM are presented in Figure 4 and Table 8.

Fig 4. Reasons for choosing the SDM



The most frequently cited reasons for adopting the SDM were the fact that the SDM has no health effects (in 26% of cases) and no side effects (14%). Some women said they chose the SDM because it was not necessary to take any medicine (21%). Husbands were opposed to other methods in 15% of cases. Women cited religious reasons in 4% of cases and the low cost of the SDM in only 1% of cases. However, these overall figures hide some important differences between clinics. For example, women in HOMEL cited husband opposition in 50% of cases compared with only 5-6% for other clinics. Similarly, women from HOMEL cited the “no health effects” reason in 37% of cases, while 26% of those from Jordan and only 15% of those from ABPF Parakou cited the same reason. On the other hand, women from Jordan cited primarily “no side effects” (25%) and “no medicine to take” (24%) as the reasons for selecting the SDM.

Table 8: Percent distribution of SDM acceptors by reasons for choosing the method and clinic

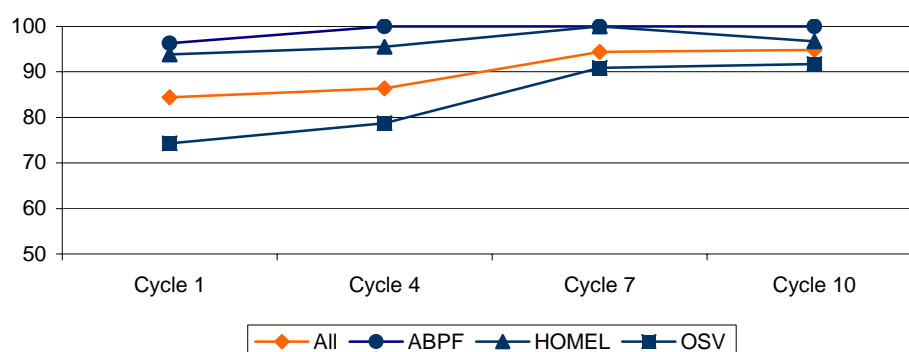
Reasons for choosing the SDM	Clinic			All clinics (n= 219)
	ABPF (n=54)	HOML (n=46)	OSV (n=119)	
Low cost	1.9	2.2	0.0	0.9
Husband opposed to other methods	5.6	50.0	5.0	14.6
No health effect	14.8	37.0	26.1	25.6
Religious opposition	0.0	10.9	3.4	4.1
No medicine to take	11.1	19.6	24.4	20.1
No effect on breastfeeding	3.7	4.3	5.0	4.6
Side effects of other methods	0.0	2.2	25.2	14.2

2.2.5 Practice of the SDM results from the follow-up study

Women who adopted the SDM and agreed to participate in the study were followed up at the end of their first, fourth, seventh and tenth cycles of SDM use respectively. At each follow-up interview, questions were asked about correct use of the method. In particular, interviewers verified whether the correct bead was marked and discussed elements of use with respondents.

Figure 5 and Table 9 present results of this verification for each follow-up visit. The data reveals that correct marking of the beads which was about 84% at the beginning of the study increased steadily with time, reaching almost 95% by the third visit, with little change between the third and fourth visit. Although this suggests an improvement in correct use of the SDM over time, it does show that some women still lack knowledge about how to correctly use the method after 10 months.

Fig 5. Percentage of users who marked the correct bead by follow-up time and clinic



The percentage of women who did not mark the correct bead is relatively high at OSV-Jordan at the beginning of the study (25%). Overall, women from all clinics improved over time in terms of marking the correct bead. However, only women from ABPF reached a 100% correct marking at the second visit and maintained this record throughout the follow-up study.

Table 9. Percent women who marked the correct bead by time of follow-up and by clinic

Follow-up period	% (n)			All clinics
	ABPF	HOML	OSV	
Cycle 1	96.3(54)	93.8(48)	74.3(109)	84.4(211)
Cycle 4	100.0(39)	95.5(44)	78.7(74)	87.6(179)
Cycle 7	100.0(32)	100.0(34)	90.9(78)	95.1(144)
Cycle 10	100.0(18)	96.7(30)	91.7(48)	94.8(96)

Table 10 presents data on women's knowledge of different elements of SDM use such as putting the ring on the red bead on the first day of the cycle, marking the calendar, moving the ring each day, etc. The respondent was first asked to cite these elements spontaneously. Then the interviewer would prompt for elements that were left out. The table presents both spontaneous and prompted responses for each follow-up visit.

At the first visit, four of the six items were mentioned spontaneously by more than 90% of women. However, marking the calendar was spontaneously cited by only 53% of women, suggesting that this item would be often forgotten by users. Also, 15% of women did not spontaneously mention the item on "moving the ring in the right direction". Despite these low percentages of spontaneous responses, these women remembered these items once they were prompted. Spontaneous citation increased steadily over the course of the follow-up period for these two items to reach 96% by the tenth cycle.

Table 10. Percent distribution of women according to elements of correct use of the SDM they cited and by clinic

SDM use items	Cycle 1(n=211)		Cycle 4 (n=183)		Cycle 7(n=146)		Cycle 10(n=98)	
	S*	P*	S	P	S	P	S	P
Place ring on red bead the first day of menses	93.4	6.2	97.8	1.7	97.9	2.1	96.9	3.1
Mark calendar	52.5	46.0	76.0	23.5	93.8	6.3	95.8	4.2
Move ring everyday one bead	91.5	7.6	98.9	0.6	99.3	0.7	97.9	2.1
No sex on white beads	95.3	3.8	98.3	1.1	99.3	0.7	97.9	2.1
Possible unprotected sex on coloured beads	93.8	5.7	97.2	2.2	98.6	1.7	96.9	3.1
Move ring in right direction	85.3	14.2	96.1	3.4	99.3	0.7	95.8	3.1
*S=Spontaneous; P=Prompted								

Virtually all women (99.6%) indicated that one should place the ring on the red bead on the first day of menses (93% spontaneously and 6% prompted). The percentage of spontaneous citation for this item increased to 98% at the second visit and remained relatively stable afterward. The data suggest that prompted recall has declined over time for virtually all items of use of the SDM. In particular, marking the first day of menses and moving the ring in the right direction which had highest prompted recall rates show steep declines by the third visit, from 46% to 6.3% for the marking of calendar and 14% to 0.7% for moving the ring in right direction.

2.2.6 Effect of the use of the SDM on couple relations and user satisfaction

Because use of the SDM requires the participation of both men and women for its use, it was hypothesized that its use would influence couple relations. During follow-up visits, interviewers asked study participants whether the use of the SDM had any effect on their partner relationship. The results, presented in Table 11, show that 26% to 29% of acceptors noticed some improvement in their couple relations. This overall percentage of improved couple relations which remains virtually constant over time hides some clinic variations. At the first visit, 78% of women of ABPF Parakou said that the SDM has resulted in improved couple relations compared with only 13% at HOMEL and 7% at OSV-Jordan. At the subsequent visit, the percent of women with improved couple relations had increased at ABPF to 100% and remained stable while virtually no change was observed for women from other clinics.

Table 11. Percent women who declared improved couple relations following adoption of SDM

In terms of user satisfaction, the data in Table 12 show that women were highly satisfied with the method. These data describe women's response to the question on whether they would continue using the method and their perception of partner's attitude towards the SDM. Almost all women said they would continue with the method (between 98% and 100%). These same women think that their partners would continue with the SDM in a similar range of positive response (95 to 99%).

Table 12. Percent women who would continue to use the SDM by follow-up time and clinic

Follow-up period	% (n)			All clinics
	ABPF	HOML	OSV	
Women				
Cycle 1	100.0(54)	100.0(48)	100.0(109)	100.0(207)
Cycle 4	89.7(39)	100.0(44)	100.0(94)	98.3(176)
Cycle 7	100.0(32)	100.0(34)	100.0(77)	100.0(143)
Cycle 10	100.0(18)	100.0(30)	95.8(48)	97.9(96)
Male partners				
Cycle 1	100.0(54)	100.0(48)	98.1(101)	99.0(203)
Cycle 4	89.7(39)	100.0(44)	98.9(94)	97.1(176)
Cycle 7	100.0(32)	97.1(34)	100.0(75)	28.7(141)
Cycle 10	100.0(18)	100.0(30)	100.0(47)	100.0(95)

Women were also asked whether their partners collaborate using the SDM and, in case of a positive response, in what way. Around 80% of women reported that their partners were very cooperative. The main situations where men were instrumental in the method use are cited below:

- helping to mark the first day of menses on the calendar;
- moving the ring every day;
- asking if the ring was moved; and
- discussing what to do on white bead days etc..

2.2.7 Managing the fertile window

Women were asked during follow-up interviews about how they managed the fertile window. In particular, a question was asked on couples' behavior on white bead days during the month that preceded the follow-up visit. Then, for those who said they had sex, a follow on question was asked about what they did to avoid a pregnancy. Table 13 presents the data on sexual activity on white bead days.

Table 13. Percent of couples who had sex on white bead days in the month preceding the follow-up visit by time of visit and clinic

Follow-up period	% (n)			All clinics
	ABPF	HOMEL	OSV	
Cycle 1	22.2(54)	12.5(48)	3.7(109)	10.4(207)
Cycle 4	17.7(39)	20.0(44)	7.3(94)	12.6(176)
Cycle 7	36.4(33)	11.8(34)	1.3(77)	11.6(143)
Cycle 10	27.8(18)	9.7(30)	0.0(48)	8.2(96)

At OSV-Jordan and, to a lesser extent at HOMEL, the percent of couples who had sex on white bead days increased between the first and second visit and then decreased sharply. At ABPF on the contrary, there is no clear trend.

Table 14 presents the distribution of methods used by couples to avoid pregnancies when they had sex during fertile days. Because of the small numbers of couples who had sex on white bead days at each follow-up visit, only aggregate values are presented.

Table 14: Percent distribution of methods used on fertile days by time of visit

Follow-up period	Method used to avoid pregnancies			N
	Condoms	Withdrawal	None	
Cycle 1	22.7	54.5	22.8	22
Cycle 4	30.4	52.2	17.4	23
Cycle 7	58.8	11.8	29.4	17
Cycle 10	62.5	12.5	25.0	8

2.2.8 Exit data

Ninety nine women had exited the study by the end of the 18 month follow-up period. Of the 219 women who entered, exit interviews were conducted with 99 women to determine reasons for exiting the study. Interviews were not conducted with the other 99 women because they had not yet completed the 13 cycles at the time the study ended. Slightly more than half of the women exited the study because they completed 13 cycles or one year of use. The data on reasons for exiting the study are presented in Table 15 below.

Disaggregating the data on reasons for exit by clinic presents a different picture. Almost 95% of women who exited the study at HOMEL did so because they completed 13 cycles of use; the remaining 5% had two cycles outside the 26-32 days range. At ABPF Parakou, only 29% of exiting women completed 13 cycles and the corresponding figure for OSV-Jordan is 58%.

Table 15. Percent distribution of reasons of exit from the study by clinic

Reasons for exiting	Clinic			All (N=99)
	ABPF (n=28)	HOMEL (n=19)	OSV-Jordan (n=52)	
13 cycles reached	28.6	94.7	57.7	56.6
2 cycles out of range	25.0	5.3	9.6	13.1
Desire for pregnancy	28.6	-	9.6	13.1
Switched method	-	-	7.7	4.0
Husband/client refused	3.6	-	3.8	3.0
Other known	3.6	-	11.5	7.1
Other unknown	10.0	-	-	3.0

Overall, 90% of women who exited the study said they were satisfied with the method and would suggest it to others.

When asked what they found easy or difficult in the use of the SDM, 91% of women said that overall the method was easy to use. Specific aspects were then prompted and women were asked whether they found them easy or difficult handle. The majority of women characterized specific aspects of method use as easy to manage, as seen below.

Learning the method	92%
Husband/partner's collaboration	82%
Manage fertile period	78%
Marking on calendar	66%
Moving the ring everyday	65%

These results suggest that marking the first day of the cycle on the calendar and moving the ring regularly are the most difficult aspect of normal use of the SDM, a finding corroborated by the follow-up data.

2.2.9 Pregnancies

Women who became pregnant while enrolled in the study were interviewed to determine whether the pregnancy was due to method failure or incorrect use and to identify factors related to method failure. A series of questions are asked in relation to the key elements of method use. A total of 21 pregnancies were recorded in this study, 9 from ABPF Parakou, 4 from HOMEL and 8 from OSV-Jordan. One user from ABPF Parakou refused to be interviewed and therefore, the interview data is complete for only 20 users. Details of pregnancies are presented in Figure 6.

Interviews with the 20 pregnant users explored factors which may be related to incorrect method use, and consequently pregnancy. These results follow:

- 15 said they moved the ring everyday as they were told
- 16 women marked the first day of their menstrual cycle on the calendar
- Of the 4 women who did not mark the first menstrual day on the calendar; 2 said they wanted to get pregnant, one forgot and the last one lost her calendar
- In 12 cases, the husband/partner insisted on having sex

Seven of these women used an alternative method during the fertile days as follows;

- withdrawal 3
- condoms 2
- emergency pills 1
- spermicides 1

Figure 6. Flow chart of pregnancy situations in the Benin SDM study

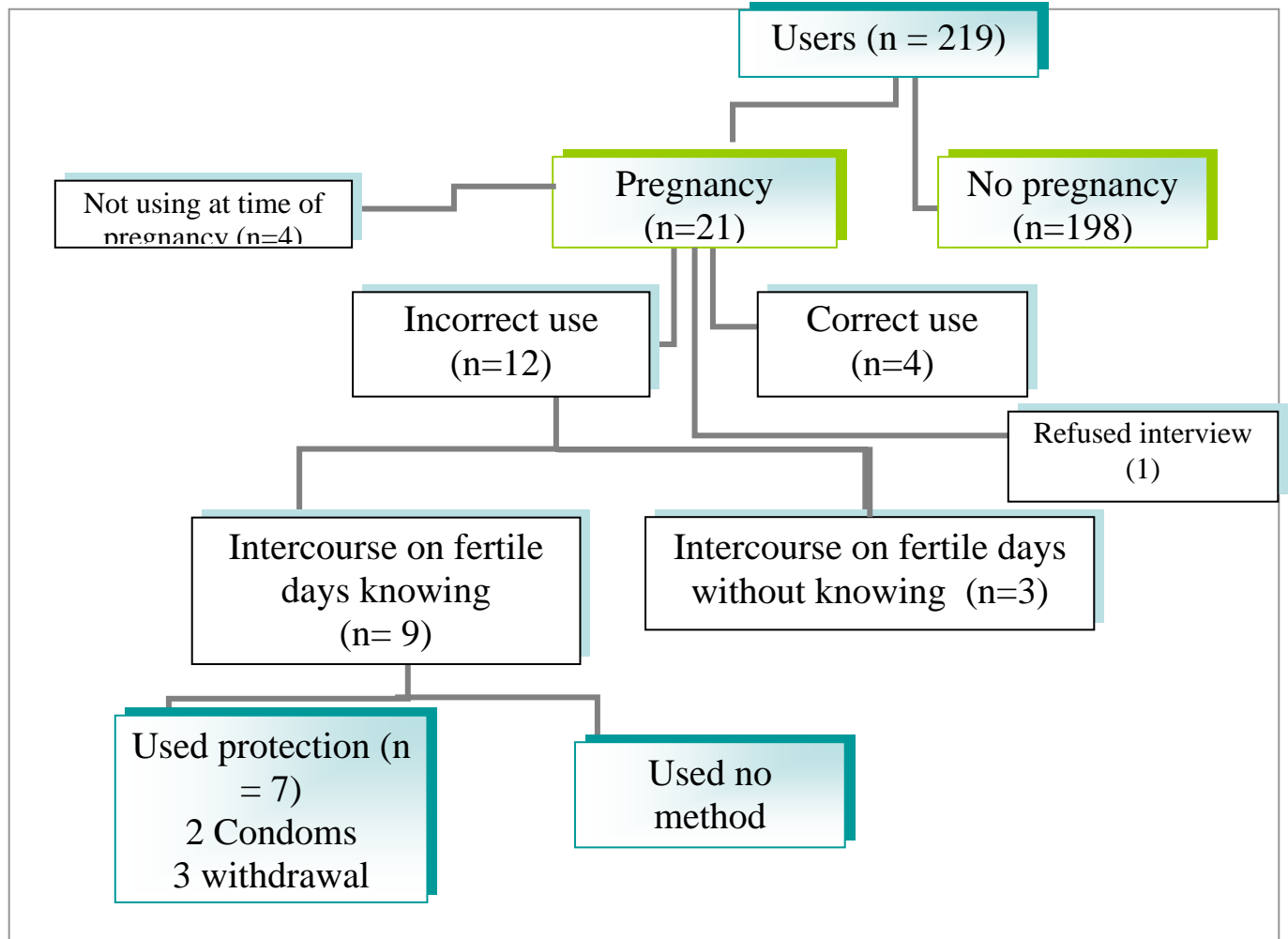
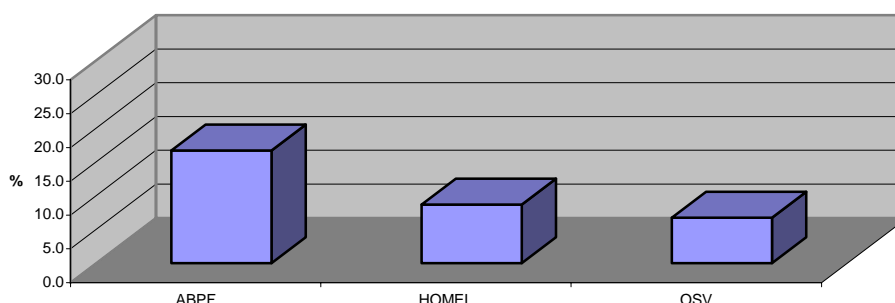


Figure 7 presents the percentage of women who became pregnant relative to the total number of women enrolled by clinic. The data suggest that pregnancy rates are higher in Parakou compared with HOMEL and OSV-Jordan.

Figure 7. Percentage of women who got pregnant over the course of the study by clinic



III. Conclusions

The implementation of the OR study to introduce the SDM into the Benin family planning program has been conducted with success. The results presented in the previous section and the outcomes of the dissemination meeting are clear indications that it is feasible to incorporate the SDM into existing programs.

The SDM is culturally appealing to couples in Benin because of long lasting practice of periodic abstinence as a method of fertility regulation. The interest in the SDM lies in its scientific nature and ease of use. The Ministry of Health, through the DSF, is highly satisfied with the process. The attitude of participants in the dissemination meeting, particularly institutions such as the WHO, UNFPA and USAID, corroborate these conclusions. The successful implementation of the Benin OR study is probably due to the very high motivation of actors from all sides. Effective leadership from the DSF, active participation of LEADD and clear understanding of the roles and responsibilities of each party played an important role in this success.

This study has also demonstrated that even in the context of limited flexibility in decision-making, government and private clinics can implement the introduction of the SDM into existing services. With good supervisory activities (at least at start of the process), service providers can improve rapidly in their ability to provide counseling and distribute CycleBeads™. Motivating providers through periodic training sessions would improve their knowledge of the method and their ability to provide adequate services.

Factors that have played a negative role in the provision of services are mainly related to eligibility criteria. Given that the majority of women in Benin are illiterate, many of them do not know the length of their menstrual cycle. This has resulted in many women being asked to wait for two cycles before initial method use, a strategy that led to the loss of hundreds of potential users and discouragement of many more.

Study results show a positive attitude towards CycleBeads™ from potential users. The data collected from admission and follow-up interviews as well as the evaluation study reveals that users were quite satisfied with the method. Women adopted the SDM mostly because of the inexistence of side effects and because of fear of side effects from other modern methods. In general, women who adopted the SDM already practiced periodic abstinence and very few have ever used a modern method such as the pill or injectable. The great majority of those who exited the study did so because they wanted to become pregnant. Further, more than half of the pregnancies observed in this study were desired.

The SDM has been effective in preventing pregnancies among women who used it correctly and avoided sexual intercourse during the fertile window. Most women who became pregnant while using the SDM had sexual intercourse on white bead days and practiced withdrawal or used condoms.

Correct use of the SDM has improved over time as shown by the follow-up data. The percentage of women who had the band on the correct bead at the time of interview increased from 84% to 95% between the first and fourth visit overall, with wide differences between clinics. Knowledge of the method has also improved over time as shown by data on spontaneous mention of the elements of correct use. However, the data revealed that marking the first day of menses on the calendar and moving the ring in the right direction are items that pose problems to users at the beginning of their SDM experience.

Percentages of couples who had sex on the white bead days vary between 8% and 12% among all study participants with wide variation between clinics. This suggests that although the fertile window appeared relatively long, couples manage to abstain.

Most couples who used the SDM repeated that they were satisfied with the method. About 25% declared that adoption of the SDM had improved the couple's relations. Most users would recommend the method to others and to continue to use the method.

On the minus side, women said that the fertile window was too long. This is explained by the fact that culturally, sexual intercourse is not accepted during menstruation. For the majority of women who have four to five days of menses this leaves only one or two days of possible sexual activity during the first non-fertile period.

IV. Implications

The main implication of this study is the clear need for scaling-up the introduction of the SDM into existing family planning services in Benin. This is feasible and should be encouraged. The Ministry of Health is committed to this process and ready to provide the needed political support. Still, the results presented here suggest a need for reflection on effective strategies to achieve program expansion and sustainability.

Method eligibility criteria need to be revised to expand access to the method, especially in the case of unknown cycle length. Discussions with participants from clinics and other service providers suggest that women who do not know their cycle length be provided the SDM and counseled to return to the clinic for follow-up visits in the first two months following adoption to monitor cycle length. There is little to lose with this strategy as most of those interested in the SDM are unwilling to use any other modern method. Women who adopt the SDM in the context of expansion will not receive follow-up

enough so as not to require visits by providers. Scaling-up the introduction of the SDM would therefore require a more thorough training of providers and better supervision. In the context of scarce resources, searches have been underway to find local institutions that could produce CycleBeads. To date, no such institutions has been identified and it is unlikely that an institution will be identified with production costs as low as those currently incurred. Researchers are therefore invited to think of alternative strategies to use the SDM in order to maintain sustainability.